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Examining Provider-Related Factors Associated with Role Competence in Shared Decision Making in Oncology Nurses

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Abstract

Purpose: To examine provider-related factors associated with higher levels of competence in shared decision-making (SDM) in oncology nurses.

Design: This study is a retrospective secondary data analysis of SDM survey data collected from 230 participants (oncology nurses that are active members of the Oncology Nursing Society) during February 2017 to September 2017.

Methods: Data collected from oncology nurses who actively provide direct care to patients from inpatient and outpatient oncology units in the Midwest and Pacific Northwest. Participants completed an online or mail survey on the following: knowledge, attitudes, communication, and adaptability which scores were derived from a 5-point Likert scale. Sociodemographic data were also obtained and analyzed using descriptive statistics. Differences between demographic data and competency scores were tested using t-tests and ANOVA analysis.

Findings: In total, 230 oncology nurses were surveyed. There were statistically significant differences were between nurses aged 20-29 vs. nurses aged 60 and above $t(68) = 2.36$, $p=0.021$, $a=.05$, nurses who have worked 1-5 years vs. nurses who have worked 16-20 years $t(42) = 4.08$, $p=0.000$, $a=.05$., associates-prepared nurses vs. doctoral-prepared nurses $t(30) = 4.00$, $p=0.000$, $a=.05$, and registered nurses vs. nurse practitioners $t(203) = 3.99$, $p=0.000$, $a=.05$. Adaptability was the most common construct to have a statistically significant difference.

Conclusion: Based on the findings of this study, it can be concluded that age and experience, as well as educational level, are important indicators of increased use and competency of SDM. Furthermore, adaptability is the strongest component of successful competency in SDM.

Clinical Relevance: When SDM competencies are fulfilled, communication and satisfaction between providers and patients are consequentially improved. In order for SDM to reach its

potential, support from institutions, leadership, and clinical nurses with experience can remove potential barriers.

Keywords: Shared decision-making, provider factors, nursing, demographic, oncology, attitudes, knowledge

Introduction

Cancer is a challenging disease that is often faced with much uncertainty. Patient care providers that relay treatment decisions are becoming more knowledgeable regarding the importance of both short and long-term benefits of shared decision making (SDM). The importance of SDM is increasing as treatment options become more varied, and specifically in oncology, where decisions can have long-term or irreversible effects. SDM is multifactorial and complex, and with improved provider competence in SDM results in an increase in the use of SDM and improved patient outcomes and satisfaction (Bomhof-Roordink et al., 2018). Specific training, education and support for providers to perform SDM in the clinical setting is vital. The presence of SDM training leads to an increase in awareness and improved attitudes towards SDM (Lenzen et al., 2018).

In the oncology setting, decisions are multi-factorial, and considerations for both patients and providers alike include quality of life, cost, and expectations. Overall, nurses feel as if they do have a voice in SDM with their patients. However, the degree of their influence can vary, and patients may not ultimately side with their advice and offerings. This can be due to a lack of competence in SDM, but also proves that SDM can be multi-factorial and complicated (Tariman et al., 2016). Furthermore, culture in medical decision making with is of importance with patients and their families alike. Cultural competence is another key aspect of successful SDM implementation that providers must be cognizant of and/or be trained (Brown et al., 2016; Tariman et al., 2020).

Although competency in SDM has been studied before as a whole and within various settings and disciplines, it has rarely been studied in oncology nursing. Furthermore, better

understanding provider-related factors in oncology nursing and its influence in SDM could improve and tailor nursing education and practice to reach its maximum potential.

Methods

Study Design

This study utilized retrospective secondary data analysis methodology to examine The Role Competency Scale on Shared Decision Making-Nurses [SDM-N] survey data (Appendix A) and provider demographic information (Appendix B). This study is secondary in nature as it is addresses a new research question within the context of data previously collected to examine a different research question.

Sample and Setting

The study data utilized for this secondary analysis was originally collected from a total of 230 oncology nurses who participated in the SDM-N survey study from February 2017 to September 2017. The original study aimed to develop a scale to measure the role of competency of oncology nurses during the SDM process. The SDM-N tool in this study was then found to be a valid and reliable instrument. Participants were recruited from three large Oncology Nursing Society (ONS) chapters in the Midwest and Pacific Northwest regions of the United States. Members were recruited per ONS protocol via each chapter's listserv. Both the SDM-N scale and sociodemographic questionnaire were sent via a web link to three chapters of the ONS. Because a large volume of members opted out of the listserv system (over 300 members), prepaid, mailed questionnaires were also sent. Participants were then stratified using educational level strata, including associate, bachelor, master, and doctorate (Tariman et al., 2018).

Instruments

This study used secondary information and data from an anonymous online and mailed survey. The first part of the survey was the SDM-N scale (Appendix A), which included 22 items regarding skills, attitudes and knowledge in respects to provider's experiences with SDM in practice. This was followed by a sociodemographic questionnaire (Appendix B). Demographic data for provides included age, gender, years of clinical experience, specific role (RN, CNS, APN) and educational level.

The initial study by Tariman et al. (2018) has strong and reliable data. The large sample size of 226 nurses is considered to be significant. Furthermore, the study did a good job of selecting quality participants. For example, the sample only included ONS members who currently provide direct care to oncology patients, which provides more representative data.

Statistically, the initial study by Tariman et al. (2018) had strong, valid data that was performed. The SDM-N tool was considered to be reliable, as the Cronbach's alpha coefficient was >0.7 in all four subscales (knowledge, attitudes, communication, and adaptability). Validity was completed by an expert panel of six oncology nurses to ensure each question for the SDM-N had clarity, relevance, simplicity, and consistency. Also, this tool uses two different statistical tests (exploratory factor analysis and parallel analysis) that had significance to support the tool's validity (Tariman et al., 2018).

In order to ensure reliable results with examining the factors associated with SDM, this study contains data that is complete and unique. Therefore, there is no data that is duplicated and no null values to alter results.

Data Collection Procedures

This is a secondary analysis using the existing data from Tariman et al. (2018).

Data Analytic Procedures

First, the qualities of sociodemographic data were performed by descriptive statistics. Demographic data included gender, age, employment status, years of oncology experience, highest degree obtained, and ethnicity. Associations between provider demographics and SDM-N answers were performed using t-tests and ANOVA tests. Completeness of data was ensured before performing data analysis. Primary data was stored on a secure, web-based cloud. Statistics of primary data used IBM SPSS version 26 for quantitative analysis.

Results

Table 1 summarizes the characteristics of the study sample. All participants were members of the Oncology Nursing Society. A total of 230 oncology nurse participants completed the SDM-N questionnaire and demographic data. The majority of participants were female (n = 213) and 12 were male. Of the participants, most were Registered Nurses (n = 162), were aged 50-59 years old (n = 71), worked full time (n = 184), had 21+ years of experience (n = 116), had a bachelor's degree (n = 105) and were Caucasian (n = 187).

The overall SDM competency mean scores between groups were highest in nurses who have 16-20 years of experience (M = 4.5) and with nurse practitioners (M = 4.48). Conversely, the lowest overall SDM competency mean scores were lowest with an associate degree (M = 3.91) and nurses aged 20-29 years old (M = 4.08). The competency factor that appeared in the most groups (role, gender, age group, years in practice and education level) and had the largest mean difference in groups studied. Three main themes emerged: (1) the importance of age and experience working as an indicator of increased use and competency of SDM among nurses, (2) the importance of educational level as an indicator of increased use and competency of SDM among nurses, and (3) adaptability is the highest competency predictor of successful SDM.

Table 1

Participant Characteristics

Characteristic	n
Age (years)	
20-29	19
30-39	40
40-49	42
50-59	71
60 or older	52
Gender	
Male	12
Female	213
Role	
Registered Nurse	162
Nurse Practitioner	44
Clinical Nurse Specialist	19
Educational Level	
Associate's Degree	13
Bachelor's Degree	105
Master's Degree	87
Doctoral Degree	19
Working Status	
Full Time	184
Part Time	33
Per Diem	4
Years in Practice	
1-5 years	29
6-10 years	28
11-15 years	35
16-20 years	16
21+ years	116
Ethnicity	
Caucasian	187
Black	4
Hispanic	8
Asian	22
Mixed	3

Age/Experience

Nurses aged 20-29 failed to show any statistical difference in overall SDM scores in comparison to the other age groups of 30-39, 40-49, and 50-59. However, an independent t-test revealed a statistically significant difference in nurses aged 20-29 and nurses aged 60 and above

($p = 0.021$). Also, competency constructs, including attitude, adaptability, and knowledge showed statistically significant differences in these two groups. Furthermore, increased years in practice lead to an increase in overall SDM competency. An independent t-test revealed a statistically reliable difference between the mean number of overall SDM competency scores in nurses who have worked 1-5 years ($M = 4.12$) and nurses who have worked 16-20 years ($M = 4.50$).

Education Level

Oncology nurses had increasing overall SDM competency scores with the higher educational level obtained. Compared to that of associates-prepared nurses, nurses with bachelors degrees had an overall mean score difference of 0.30 points, masters-prepared nurses had a 0.40 higher overall mean score, and doctoral-prepared nurses had a 0.56 higher overall mean score. Additionally, the role of a nurse practitioner (which requires a higher level of education such as a masters or doctoral degree) was found to have a statistically significant higher score of overall SDM competency ($M=4.34$) than registered nurses ($M=3.83$, $p = 0.000$).

Adaptability

Of the studied constructs of competency in SDM (knowledge, attitudes, communication and adaptability), adaptability was the most common construct found to have a statistically significant difference. This appeared in five of the six sociodemographic groups studied: role, gender, age group, years in practice, and education level. The largest mean difference for adaptability competency scores was found between nurses who had a doctoral degree compared to nurses who had an associates degree. Compared with associates-prepared nurses, doctoral-prepared nurses scored 0.79 points higher on the scale in adaptability questions ($p = .001$).

Discussion

The purpose of this secondary data analysis is to examine the various sociodemographic factors as well as skills, knowledge and attitude proficiencies that are associated with higher levels of competence in SDM in oncology nurses. The study's findings indicate that competence in SDM is strongly associated with increased educational level and age. Also, adaptability is the leading indicator of successful SDM use and competency.

This study enhances preexisting research in SDM in nursing. While the majority of studies investigate patient SDM factors, even fewer examine factors that impact providers. Furthermore, this study is specific to oncology nursing. In oncology, SDM has its own unique circumstances and requirements. Bomhof-Roordink et al. (2018) highlight the fact that because cancer is a potentially life-threatening disease and is faced with much uncertainty, SDM is particularly vital.

This study contains various strengths. The initial study by Tariman et al. (2018) has strong and reliable data. The large sample size of 226 nurses is considered to be significant. Furthermore, the study did a good job of selecting quality participants. For example, the sample only included ONS members who currently provide direct care to oncology patients, which provides more representative data. Statistically, the initial study by Tariman et al. (2018) had strong, valid data that was performed. The SDM-N tool was considered to be reliable, as the Cronbach's alpha coefficient was >0.7 in all four subscales (knowledge, attitudes, communication, and adaptability). Limitations to study design include the utilization of a homogeneous study sample of in patient oncology nurses, as SDM needs can differ by setting. Also, the data from this study could have used a 7-point Likert scale (rather than 5) to obtain more specific data.

This study has several nursing impactions, specifically in how to adapt and foster SDM in the workplace in a tailored manner. Nurse managers and leaders can learn to pinpoint barriers to SDM and support clinicians to carry out SDM. This can include increased time spent with patients to promote time for further conversation on patient's needs and wants. Also, nurse management can provide resources on SDM education and coaching. Decision coaching skills for nurses can be improved with support from practice environments, regulatory bodies, and educational systems. With this available and supported knowledge and awareness of SDM, nurses can enhance their patient decision support skills (Stacey et al., 2008).

The understanding of SDM and this study can be enhanced by targeting a wider audience of oncology nurses. This study, while it has a robust number of participants, does not incorporate the oncology nurses of the US as a whole. Aiming this study towards other oncology nurses, such as the Hispanic population, can help better individualize the understanding and implementation of SDM for this particular group. Therefore, it would be beneficial to translate the questionnaire into Spanish.

Conclusion

This study demonstrates the impact of various sociodemographic factors of oncology nurses that impact the use and understanding of SDM within practice. Furthermore, knowledge, skills, and attitudes were assessed in the competency of SDM in nursing. Support from nursing management can foster the development and use of SDM in practice. Future SDM research should extend to other cultures to develop SDM competency and needs among oncology nurses.

Clinical Resources

Center for Shared Decision Making: https://med.dartmouth-hitchcock.org/csdm_toolkits.html

ACCC SDM Implications: https://www.accc-cancer.org/projects/shared-decision-making/overview

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